UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/566,546	01/27/2006	Yufu Li	42P22632	5845

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EXAMINER
BAE, JI H

ART UNIT	PAPER NUMBER
2115	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/566,546	LI ET AL.
	Examiner	Art Unit	
	JI H. BAE	2115	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *27 January 2006*.
2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-21* is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) *1-21* is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on *27 January 2006* is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a) ☐ All   b) ☐ Some *   c) ☒ None of:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date *9-11-2006, 1-27-2006*.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____ .

DETAILED ACTION

The examiner acknowledges applicant's claim of priority to International Application No.

PCT/CN2005/002306, filed on December 24, 2005, however a copy of the International

Application has not been received.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 16-21 are rejected under 35 U.S.C. 101 because the claimed invention is

directed to non-statutory subject matter.

Regarding independent claims 16 and 18, the claims recite an apparatus and a

processing system respectively, each comprising a "machine accessible medium". Applicant's

specification explicitly describes machine accessible media as including "microwaves, radio

waves, and other electromagnetic or optical carriers". Electromagnetic and/or optical waves as

described by applicant do not constitute statutory subject matter since they cannot be properly

classified as a process, machine, article of manufacture, or composition of matter.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-10 and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admission of prior art (AAPA)[1] in view of Fenger, U.S. Patent No. 5,701,476.

Regarding claim 1, AAPA teaches platform firmware runtime services that include a portable executable (PE) image [specification, pp. 11-3, applicant's discussion of EFI and the PE/COFF specifications]. AAPA does not address loading part of a PE image into runtime memory while omitting discardable sections.

Fenger teaches a method comprising [Fig. 6]:

determining whether a driver includes a discardable section [step 610];

loading part of the driver into memory [step 630]; and

in response to the determining, omitting the discardable section when loading the driver into memory [step 630, initialization function is omitted, col. 6, lines 16-31].

It would have been obvious to one of ordinary skill in the art to combine the teachings of AAPA with Fenger by modifying Fenger to conform to the EFI and PE/COFF specifications. Both AAPA and Fenger are directed towards firmware/drivers for computer systems. AAPA teaches that the EFI specification and PE/COFF format are industry standards for platform firmware and executable files that run under Microsoft Windows. Since Fenger's invention is implemented in a computer system that operates under a Microsoft Windows operating system, it would have been obvious to one of ordinary skill in the art to update Fenger's invention to operate according to the current industry standards.

Regarding claim 2, Fenger teaches loading the discardable section [init function] into boot-time memory [Fig. 4, init function is previously loaded into a different area of memory. col. 4, lines 17-21]. Fenger further teaches that this occurs during initialization of the computer system, and that run-time interfaces are loaded into a separately allocation area of memory

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[1] AAPA includes Microsoft's PE/COFF Specification, discussed by application on pp. 2, lines 16-20, and

from the area of memory used to load the initialization functions [col. 4, lines 38-42]. To the

extent that applicant's specification teaches that the boot-time memory and run-time memory

are merely separately allocation areas of RAM 26 [Fig. 3], Fenger's memory allocation scheme

satisfies this description of boot-time and run-time memories.

Regarding claims 3, 4, and 6, it would have been obvious to one of ordinary skill in the

art to use an alignment granularity appropriate to the application as a matter of design choice.

Regarding claims 5-9, AAPA/Fenger teaches:

recording a run-time memory size in association with a first boot process [Fenger, Fig. 6,

step 610];

pre-allocating an area of run-time memory for the drivers based on the recorded memory

size [step 620];

loading sections from multiple drivers into the pre-allocated memory [col. 3, lines 44-47,

drivers for a plurality of devices are in view].

Regarding claim 10, it would have been obvious to omit header information so as to

further reduce the amount of memory being occupied.

Regarding claims 13-15, AAPA/Fenger teaches the method of claims 1-10, and also the

method of claims 13-15.

Claims 11, 12, and 16-21 are rejected under 35 U.S.C. 103(a) as being unpatentable

over AAPA/Fenger as applied to claims 1-10 and 13-15 above, and further in view of Pietrek

("An In-Depth Look into the Win32 Portable Executable File Format", Feb. 2002, *MSDN

Magazine*).

cited on applicant's Information Disclosure Statement.

Regarding claim 11, AAPA/Fenger teaches a PE image with discardable sections, but does not teach a linker and object file for grouping multiple discardable section of the object file together in the PE image.

Pietrek discusses a linker for creating PE images from object files, wherein the linker has the ability to merge sections with similar attributes into a single section [page 4].

It would have been obvious to one of ordinary skill in the art to combine the teachings of Pietrek and AAPA/Fenger by using the teachings of Pietrek to create the PE image file of AAPA/Fenger. Both AAPA/Fenger and Pietrek are directed towards PE images. Pietrek's article is an overview of the standard features of the PE file format. Therefore it would have been obvious to one of ordinary skill in the art to use the teachings of Pietrek to create the PE image file of AAPA, since Pietrek's teachings are part of the standard implementation. Additionally, Pietrek teaches that merging sections with similar attributes has the added benefit of saving space in memory and storage [pp. 4, last paragraph].

Regarding claim 12, Fenger teaches placing the boot-time initialization functions below the run-time interfaces [run-time interfaces placed at the end of memory, col. 7, lines 60-62].

Regarding claims 16-21, AAPA/Fenger/Pietrek teaches the method of claims 1-15, and also the apparatus and processing system to implement the claimed method.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Zimmer et al., U.S. Patent Application Publication No. 2005/00716717,

Chen, U.S. Patent No. 6,883,078,

Lindholm, U.S. Patent No. 5,794,049,

Cooper, U.S. Patent Application Publication No. 2003/0014561,

Spilo et al., U.S. Patent No. 6,298,422,

Zimmer et al., U.S. Patent Application Publication No. 2004/0158828,

Chaiken, U.S. Patent No. 6,128,732,

Oerting et al., U.S. Patent Application Publication No. 2006/0026569.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JI H. BAE whose telephone number is (571)272-7181. The examiner can normally be reached on Monday-Friday, 10 am to 6:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Lee can be reached on 571-272-3667. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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